

Giancarlo de Gasperis

Dipartimento di Fisica
Università di Roma "Tor Vergata"

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H-index:

More than 8000 citation in 105 refereed papers (data from ADS)

ADS: 51

Google Scholar: 57

ISI Web of Science: 47

Scopus: 44

Papers on ADS:

[de Gasperis Giancarlo on ADS](#)

Curriculum

- 2001 Ph.D. in Astronomy Università degli studi di Roma "La Sapienza",
- 1993 Physics degree *cum laude*, Università degli studi dell'Aquila

Position:

- 2006 – Today: permanent academic research position at Physics Dept, Univ. di Roma "Tor Vergata" and aggregate professor – Ricercatore (Academic Tenure - Professor teaching assistant)
- 2012 – 2018: member of the Board of the Ph.D. School in Astronomy, Astrophysics and Space Science (Joint Ph.D School of Sapienza University of Rome and Tor Vergata University) - see <http://www.phys.uniroma1.it/fisica/fisica/dottorato-astronomia/board-faculties>
- 2006-2012: Member of the Board of Astronomy Ph.D School of Tor Vergata University

Teaching activities:

- From A.A. 2020-2021: Co-teacher of "Big Data, Machine Learning and Astrophysical data-sets"; Phys. Dept, Univ di Roma "Tor Vergata".
- From A.A. 2020-2021: Teacher of "Astrophysical Techniques"; Phys. Dept, Univ di Roma "Tor Vergata".
- From A.A. 2019-2020 to A.A 2020-2021: Teacher of "Astrophysics Laboratory"; Phys. Dept, Univ di Roma "Tor Vergata".
- From A.A 2016-2017: Co-Teacher - Digital Data Analysis: Phys. Dept, Univ di Roma "Tor Vergata".
- From A.A 2006-2007: Teaching assistant - Laboratorio di Informatica 2; Phys. Dept, Univ di Roma "Tor Vergata".
- From A.A. 2010-2011 to A.A. 2016-2017: Teaching assistant - "Relativity and Cosmology" I and II; Phys. Dept, Univ di Roma "Tor Vergata".

- **From A.A. 2013-2014 to A.A 2016-2017:** Teacher of “Laboratorio di Astrofisica”; Phys. Dept, Univ di Roma “Tor Vergata”.
- **A.A. 2009-2010:** Teaching assistant - “General physics”; Pharmacy, Univ di Roma “Tor Vergata” and Teacher of “Laboratorio di Programmazione Strutturata”; Scienze e Tecnologie dei Media, Univ di Roma “Tor Vergata”.
- **From A.A. 2005-2006 to A.A 2008-2009:** Teacher of “Laboratorio di calcolo per Fisica dell’atmosfera”; Phys. Dept, Univ di Roma “Tor Vergata”

Ph.D:

Since 2006: Entitled to become supervisor of doctoral theses and member of the board and Supervisor of two Ph.D student:

██████████ (XXXI Cycle- 2015/2019): “Cosmology with Sunyaev-Zel'dovich effect”

██████████ (XXXII Cycle - 2016/2019): “Astrophysics and cosmology with the Sunyaev-Zel'dovich effect towards clusters of galaxies”

Awards:

- 2010 Herschel and Planck have been awarded the 2010 Grand Prix Spécial of the Astronautical and Aeronautical Association of France (see http://www.esa.int/spaceinimages/Images/2010/06/Herschel_and_Planck_win_the_AAAF_Grand_Prix_2010_award).
- ASI Award for the contribution to the development of the Planck/LFI instrument (2009)

Academic activity:

- Member of the evaluation board for several post-doc fellowships;
- Supervisor of 11 bachelor theses and 11 master theses in Cosmology, CMB Data Analysis, numerical statistics and Montecarlo methods, and on-ground validation and experimental tests of CMB telescopes;
- Co-supervisor of master theses in Cosmology and CMB Data Analysis;
- External supervisor for master theses in Solar physics and Gravitational physics;
- Internal referee of 8 Physics master students for their external stages;
- Deputy academic advisor for the European Astromundus program Erasmus+: Erasmus Mundus Joint Master Degree programme in Astronomy & Astrophysics and LOC for the Tor Vergata Node (<https://www.fisica.uniroma2.it/~tovastro/astromundus/>)

Scientific interests keywords:

Theory:

- Cosmology;
- Cosmic Microwave Radiation;
- Large Scale Structure.
- Compact topology Universes

Data Analysis:

- Cosmic Structures analysis
- Cosmic Microwave Background Temperature and Polarisation
- Balloon and Satellite-borne experiments data analysis
- Data analysis pipeline for large data sets
- Statistical methods

- Noise estimation
- Map-making of CMB experiments
- CMB Power spectra estimation
- Systematic effects

Current and past Scientific Memberships:

- INFN Associate,
- Member of CSES_02 , Of the solar physics group of Phys. Dept of "Tor Vergata" as scientific support and software validation team member;
- I am BINGO (Constraining Dark Energy using HI Intensity Mapping - <http://www.bingotelescope.org/en/>) team member and coordinator of Map-Making team;
- LSPE/SWIPE team member: I am involved in the data analysis and simulation pipeline, noise characterisation and map-making team, CMB spectral analysis team and component separation team. In the LSPE/SWIPE team, I also support and coordinate the integration of the SWIPE test cryostat, Half-Wave Plate systematic effects characterisation and on-ground validation.
- LSPE/STRIP team member in the simulation pipeline WG.
- I am QUBIC team member and local manager for the INFN-Roma2 team of the experiment.
- In the PILOT collaboration I am in the data analysis and simulation pipeline WG and leader of the Map-making activity.
- In the CORE++ team I coordinated the study of the effect of noise cross- correlation in the map-making pipeline
- As member of PLANCK/LFI consortium: I have been deputy and core team leader of the noise characterisation and map-making algorithm validation WG of the LFI instrument
- In the BOOMERanG/B2K3 I was in the Italian data analysis pipeline of the BOOMERanG experiment, involved in the characterisation of the raw timestream noise properties and systematics, responsible of the B2K3 IT map-making pipeline and CMB Temperature, polarisation and TP power spectra characterization.
- I have been in the Herschel collaboration in the Data analysis team for the PACS (Photodetector Array Camera and Spectrometer) - an imaging photometer and medium resolution grating spectrometer and SPIRE (Spectral and Photometric Imaging Receiver) - an imaging photometer and an imaging Fourier transform spectrometer.
- Member of the INFN roma2 research team INDARK and INFN PD51: Fisica Astro-Particellare: Inflazione, materia oscura e struttura su grande scala dell'Universo.
- For two years I was member of the EU FP7-INFRASTRUCTURES-2012-1-of the Solar Physics Group of "Tor Vergata" Physics department as data analysis and software development support
- Participant in the PRIN2009: "Metodi statistici avanzati per l'analisi della Cosmic Microwave Background radiation "
- PI of SMODATA project (SiMulation and testing Of a CMB Polarization DATa Analysis Pipeline) Simulation and testing of LSPE/SWIPE and CORE simulation and data analysis pipeline; (CINECA award under the ISCRA initiative (25.000hrs CPU time)

Other activities:

Actively involved in the outreach initiatives of my department:

- Teacher in three edition of "Stage in Tor Vergata" initiative for high school students – years 2013, 2019 and 2020
- In the local organizing team of 2018, 2019 and 2021 of "Serate astrofisiche per gli studenti di fisica" (see i.e. [serata astrofisica](#) for the latest edition) for eclipses, solar, lunar, planet and star observations.